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EDUCATION

Nanjing University of Aeronautics and Astronautics

Nanjing, China

Doctoral student in Management Science and Engineering

09/2021- 07/2025

Supervisor: Professor Zilong Wang

Thesis: *Competing Mechanism of Technology Collaborative Innovation in Network Manufacturing Environment*, this thesis has been submitted in March 2025, and it is expected that it will be awarded in July 2025.

Kunming University of Science and Technology

Kunming, China

Master of Science in Quality Engineering and Management Business Administration

09/2018-06/2021

09/2018-06/2021

GPA 86.72/100

Hebei GEO University

Shijiazhuang, Hebei, China

Bachelor of Engineering in Engineering Management

09/2013-06/2017

GPA 81.94/100

EMPLOYMENT

Jiangxi University of Science and Technology

Ganzhou, China

Assistant Professor in School of Economics and Management

10/2025-

I got my PhD at Nanjing University of Aeronautics and Astronautics, and I have been appointed as a member of faculty of Jiangxi University of Science and Technology. My thesis is looking at technological innovation, technology transfer network, and digital economy. My present work has employed innovation network, corporate innovation strategy, digital innovation, and science economics. I have published 18 papers of which 10 papers are in the Chartered Association of Business Schools Journal List, and they are rated as 3*, 2*, and 1*. My other 8 journal papers are in good quality peer reviewed engineering journals.

RESEARCH

Refereed Publications

Wang Z, **Cai, H.** (Forthcoming) Competing through innovation in networked manufacturing [J]
International Journal of Strategic Decision Sciences CABS 1*

- Cai, H.,** Wang, Z., Ji, Y., & Xu, L. (2024). Digitalization and innovation: How does the digital economy drive technology transfer in China? *Economic Modelling*, 136, 106758. *CABS 2**
- Cai, H.,** Wang, Z., Zhang, Z., & Xu, L. (2023). Does environmental regulation promote technology transfer? Evidence from a partially linear functional-coefficient panel model. *Economic Modelling*, 124, 106297. *CABS 2**
- Cai, H.,** Wang, Z., Zhang, Z., & Xu, X. (2023). Carbon emission trading schemes induces technology transfer: Evidence from China. *Energy Policy*, 178, 113595. *CABS 2**
- Xu, L., **Cai, H.,** and Wang, Z. (2023) Can air pollution reduce technology transfer? Evidence from China's prefecture-level cities, *Science of The Total Environment*, Volume 857, Part 3, 20 January 2023, 159510. <https://doi.org/10.1016/j.scitotenv.2022.159510>
- Feng, Z., **Cai, H.,** Chen, Z., and Zhou, W. (2022) Influence of an interurban innovation network on the innovation capacity of China: A multiplex network perspective, *Technological Forecasting and Social Change* <https://doi.org/10.1016/j.techfore.2022.121651> *CABS 3**
- Cai, H.,** Wang, Z., and Wang, W. (2022) Spatiotemporal investigation and determinants of interprovincial innovation network from a multilayer network perspective, *Technology Analysis and Strategic Management* DOI: <https://doi.org/10.1080/09537325.2022.2131514> *CABS 2**
- Cai, H.,** Feng, C., Zhou, W., Chen, J., and Chen, Z. (2022) Understanding the spatial polarization pattern of technology transfer network in the Guangdong - Hong - Macao Greater Bay area, *Growth and Change* <https://doi.org/10.1111/grow.12636> *CABS 2**
- Cai, H.,** Wang, Z., and Zhu, Y. (2022) Understanding the structure and determinants of intercity carbon emissions association network in China. *Journal of Cleaner Production*, 352, June 131535. <https://doi.org/10.1016/j.jclepro.2022.131535> *CABS 2**
- Li, J., **Cai, H.,** and Wang, Z. (2023) Impact of Industrial Synergy on the Efficiency of Innovation Resource Allocation: Evidence from Chinese Metropolitan Areas, *Land*, 12(1), 177. <https://doi.org/10.3390/land12010177>
- Feng, Z., Chen, Z., **Cai, H.,** & Yang, Z. (2022). Evaluation of the Sustainable Development of the Social-Economic-Natural Compound Ecosystem in the Guangdong-Hong Kong-Macao Greater Bay Area Urban Agglomeration (China): Based on Complex Network Analysis. *Frontiers in Environmental Science*, 935.
- Feng, Z., Chen, Z., **Cai, H.,** & Yang, Z. (2022). Evolution and influencing factors of the green development spatial association network in the Guangdong-Hong Kong-Macao Greater Bay Area. *Technological and Economic Development of Economy*, 28(3), 716-742.
- Wang, Y., Wang, Z., & **Cai, H.** (2024). Cost-sharing incentive for collaborative innovation between main manufacturer-core supplier based on risk factors. *RAIRO-Operations Research*, 58(4), 2907-2925. *CABS 1**
- Qiao, Y., Jian, L., & **Cai, H.** (2024). A novel multi-attribute three-way decision model with three-parameter interval grey number decision-theoretic rough sets. *Kybernetes*. *CABS 1**

Yang Y., Wang Z., & **Cai, H.** A dynamic game study of collaborative development of complex products considering cost sharing[J] *S&T Management Research (Chinese Journal, China Social Sciences Citation Index)*. Forthcoming

Cai, H., Zhai, Y., Chen, Y., Liu, F., and Wang, H. (2021) Numerical study on uniformity of temperature difference field in a spiral tube heat exchanger, *Applied Thermal Engineering*, 190, May 116798. <https://doi.org/10.1016/j.applthermaleng.2021.116798>

Cai, H., Liu, F., Huang, J., Wu, M., Wang, H., and Xu, J. (2020) Effect of size distribution of bubble groups on average volumetric heat transfer coefficient in the process of direct contact boiling heat transfer, *International Communications in Heat and Mass Transfer*, 117, October, 104709

Feng, Z., **Cai, H.**, and Zhou, W. (2020) Structural Characteristics and Spatial Patterns of the Technology Transfer Network in the Guangdong–Hong Kong–Macao Greater Bay Area, *Sustainability*, 12(6) 2204. <https://doi.org/10.3390/su12062204>

Working Papers

Ji Y, **Cai, H.**, Wang Z. Does carbon emissions trading schemes boost technology cooperation? evidence from China. *Environment, Development and Sustainability* (Under Revision, 11 Mar 2025)

Wang Z., **Cai, H.** The breakthrough technological innovation ecology and its industrial effect - based on multi-subject simulation framework. *Systems Engineering* (Chinese Journal, China Social Sciences Citation Index) (Under review)

Wang Z, **Cai, H.** Interprovincial green technology transfer and the role of environmental regulation: evidence from China. *Int. J. of Technology Transfer and Commercialisation* (Submitted) *CABS 1**

Conference Papers

Cai, H., Ji Y, Wang Z. Intercity technology cooperation and the role of carbon emissions trading schemes, Workshop on Frontiers in the Economics of Science (winter). 13 Jan 2024, (Unpublished).

Cai, H. The Mechanism and Path of Inducing Breakthrough Technological Innovation. Yangzhou University The 11th International Young Scholars Forum. Oct 2024, (Unpublished).

Public Services

China Scholarship Council (UK) Scholarship, 1350€/month - Fully funded PhD studies at Royal Holloway University of London, 6 months.

Author of tweets for the Balsam Economics Academic Circle in China

Reviewer for the following journals: Research Policy, Technological Forecasting and Social Change, Economic Modelling, Growth and Change, Technology Analysis & Strategic Management, Applied Economics, Information Technology for Development, Economic Analysis and Policy, Kybernetes, Applied Economics Letters, Environmental Impact Assessment Review.

Software Skills

Expert in R, Stata, Python, and Matlab

Languages

Chinese (Mother tongue) and English: Fluent (All academic publications and research papers authored independently without translation assistance.)

Referees

Professor Paul Robson

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